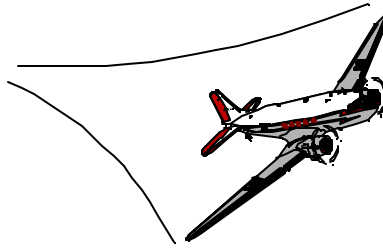


SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation

**Federal Aviation
Administration**

No. CE-01-25
May 30, 2001

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) provides you, an owner or operator of Stemme Models S10V and S10-VT sailplanes, with additional safety information pertaining to the Variable Pitch Propeller.

Background

The FAA issued Airworthiness Directive (AD) 2000-15-03 that required:

- Removal, exchange, and reinstallation of the propeller blade suspension fork (part number 10AP-V88),
- Modification of the propeller gearbox suspension, and
- To dynamically balance of the propeller.

The German Civil Airworthiness Authority, (Luftfahrt-Bundesamt) issued a **revised** *Airworthiness Directive*. Their AD changes the following:

- Serial Number Effectivity from all serial numbers to those specified in Service Bulletin (SB) A 31-10-051, amendment 05c.
- Corrects an error in the conversion of kilograms to pounds in section 6 of SB A 31-10-051, amendment 05c (0.24 kilograms should be 0.53 pounds).

Stemme GmbH & Co. has also revised Service Bulletin A 31-10-001 that increases the service life of the associated propeller components. We have enclosed copies of applicable foreign AD and SBs.

The factory should have accomplished SB requirements on sailplanes manufactured subsequent to the serial number effectivity. We are considering revising our AD 2000-15-03 to reflect this change.

We highly recommend you make the small calculation adjustment to your sailplane's weight and balance as specified in section 6 of Service Bulletin A 31-10-051, amendment 05c.

For Further Information Contact

Stemme GmbH & Co. KG, Gustav-Meyer-Allee 25, D-13355 Berlin, Germany; Telephone 49.3341.3111.70; Facsimile 49.3341.3111.73.

Stemme USA, Inc., United States Dealer for Stemme GmbH & Co. KG, 1401 South Brentwood Blvd, Suite 760, Saint Louis, Missouri, 63144; Telephone (314) 721-5904; Facsimile (314) 726-5114.

Mike Kiesov, Aerospace Engineer/Pilot, FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri, 64106; telephone (816) 329-4144; Facsimile (816) 329-4090.



**Airworthiness
Directive
1999-224/5**

Luftfahrt-Bundesamt
Airworthiness Directive Section
Hermann-Blenk-Str. 26
38108 Braunschweig
Federal Republic of Germany

Stemme

Effective Date: March 22, 2001

Affected:

Kind of aeronautical product:	Powered Sailplanes
Manufacturer:	Stemme, Berlin, Germany
Type:	Stemme S 10
Models affected:	Stemme S 10-V and -VT
Serial numbers affected:	S10-V: 14-001 up to 14-030 and 14-012M up to 14-063M S10-VT: 11-001 up to 11-037
German Type Certificate No.:	846

Subject:

Variable Pitch Propeller – Propeller fork 10AP-V08 of propellers 10AP-V and 11AP-V / Project-No. 14-006

Reason:

Loss of one propeller blade including propeller fork during flight operation due to a fracture of the propeller fork at the end of its threaded fastening pin.

That fracture of the propeller fork may be caused by the stress which occurred during a ground contact of the propeller or a similar incident such as impact stop.

Putting out of operation of the propeller forks P/N 10AP-V08 on the occasion of the conversion of the propellers 10AP-V and 11AP-V to the design with the new forks P/N 10AP-V88.

Action:

The propellers 10AP-V and 11AP-V must be converted to the design with the new forks P/N 10AP-V88 (for both propellers).

Modification of the gearbox suspensions of the propeller 10AP-V and spacer tubes of the gearbox suspensions. Perform an extra dynamic propeller balancing.

Note:

With publication of this Airworthiness Directive the requirement for revision of the appropriate service manual mentioned concerning the permissible operating times under the item 7 "Associated Documents" is no longer required.

The Technical Bulletin No. A31-10-001 as amended and approved by the LBA is to be applied.

Compliance:

The actions must be done before the next flight, if not already has been done.

Note:

For the purpose of the accomplishment of this AD one (1) ferry flight will be permitted; for this ferry flight the following conditions have to be met:

1. Proper condition and unrestricted functioning of the components concerned.
2. The ferry flight may be conducted only under visual flight conditions and with the minimum flight crew required for this flight.
3. Passengers, company staff members not required to conduct the flight and goods may not be carried.
4. The aircraft may not be flown over congested areas and assemblies of persons.
5. Prior to the flight, the pilot is to be informed about this exemption.
6. The conduct of the ferry flight is to be reported in writing to the Luftfahrt-Bundesamt stating a) the name of the pilot, b) the date of the flight, c) the time of departure and arrival and the AD number.

Technical publication of the manufacturer:

Stemme Service Bulletin No. A 31-10-051, Amendment-Index 05.c dated December 15, 1999 which becomes herewith part of this AD and may be obtained from Messrs.

Enquiries regarding this Airworthiness Directive should be referred to Mr. Olaf Schneider, Airworthiness Directive Section at the above address, fax-no. 0049 531/2355-720. Please note, that in case of any difficulty, reference should be made to the German issue!

LTA's / AD's and Technical Notes are published on the internet at <http://www.lba.de>

Stemme GmbH & Co. KG
Flugplatzstraße 2, Nr. 7

D-15344 Strausberg
Federal Republic of Germany

Accomplishment and log book entry:

Action to be accomplished by an approved service station and to be checked and entered in the log book by a licensed inspector.

Note:

This AD supersedes the AD-No. 1999-224/4 dated December 10, 1999.

Holders of affected aircraft registered in Germany have to observe the following:

As a result of the a.m. deficiencies, the airworthiness of the aircraft is affected to such an extent that after the expiry of the a.m. dates the aircraft may be operated only after proper accomplishment of the prescribed actions. In the interest of aviation safety outweighing the interest of the receiver in a postponement of the prescribed actions, the immediate compliance with this AD is to be directed.

Instructions about Available Legal Remedies:

An appeal to this notice may be raised within a period of one month following notification. Appeals must be submitted in writing or registered at the Luftfahrt-Bundesamt, Hermann-Blenk-Str. 26, 38108 Braunschweig.

STEMME GmbH & Co. KG Design Org. No. EB 11	Service Bulletin Variable Pitch Propeller - Propeller Fork P/N 10AP-V08	Document number: A31-10-051 Am.-Index: 05.c Page 3 (of 4)
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This Service Bulletin provides from page 1 to 2 the original version in German, approved by the Luftfahrt-Bundesamt, and from page 3 to 4 a translated version in English. The translation has been performed to the best of our knowledge and judgement.

1. Subject:

Propeller fork P/N 10AP-V08 of propellers 10AP-V and 11AP-V / project # 14-006

2. Affected Powered Sailplanes:

Powered sailplane STEMME S10: models S10-V and S10-VT / LBA Type Certificate Data Sheet no. 846 / FAA Type Certificate No.: G58EU and G06CE.

- Serial numbers S10-V model: 14-001 through 14-030 and 14-012M through 14-063M
- Serial numbers S10-VT model: 11-001 through 11-037

3. Time of compliance:

- The conversion of the propellers 10AP-V and 11AP-V acc. to 5.1 must be performed before the next flight with the exception of:
Within the next 5 engine operation hours a ferry flight to the home base and suitable maintenance station, respectively, is still permitted. During that ferry flight the engine should be operated by less than 75% MCP, if possible for take-off too. Descents with revving propeller at $V_{IAS} > 120$ km/h (65 kts) are prohibited.
- The gearbox suspensions of the propeller 10AP-V have to be modified acc. to 5.2 before the next flight.
- After mounting works on the propeller a dynamic propeller balancing must be performed.

4. Background Information:

Revision of the SB A31-10-051 Am.-Index 04.a and the associated German AD 1999-224/3.

Putting out of operation of the propeller forks P/N 10AP-V08 on the occasion of the conversion of the propellers 10AP-V and 11AP-V to the design with the new forks P/N 10AP-V88.

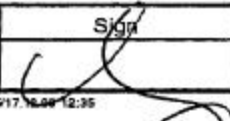
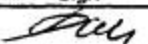
5. Measures:

- The propellers 10AP-V and 11AP-V have to be converted to the design with the new forks P/N 10AP-V88. This change is the same for both propellers. From the outside it can be identified by the new propeller fork fastening (using a central steel bolt).
- Modification of the gearbox suspensions of the propeller 10AP-V (if not already done):
The spacer tubes P/N 10AA-08 of the gearbox suspensions (P/N 10AA) must be shortened by 5 mm (0.2 inch).
The use of the new spacer tubes P/N 10AA-28 and the new gearbox suspensions P/N 14AA, respectively, complies with that measure.
- An extra dynamic propeller balancing must be performed acc. to the STEMME Procedural Instruction A17-10AP-V/2-E.

The propellers affected by this Service Bulletin are to be removed according to the Maintenance Manual and must be sent together with their associated service records to the manufacturer for the conversion of the propeller.

6. Mass and balance:

After performing measure 5.1 (conversion to the changed type design) the propeller mass will be raised by 0,24 kg (0.53 lbs) at a moment arm of -1880 mm (-74.01 inch) (negative means in front of datum). The manufacturer will change the "Weight and Balance Report" accordingly. The change of the empty weight is negligible.

prepared:	Sign	checked:	Sign	Date:	Supersedes issue of:
Montag		Dalldorff		15.12.1999	06.12.1999

Service Bulletin

Variable Pitch Propeller - Propeller Fork P/N 10AP-V08

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7. Associated documents:

- Removal and installation of the propeller/gearbox unit according to the Maintenance Manual.
- Service records of the propeller which show the current operation time of the propeller forks, blades and hub.
- Latest Weight and Balance Report
- The maintenance manuals have to be amended to:
S10-V: amendment No. 7
S10-VT: amendment No. 8
- STEMME Procedural Instruction A17-10AP-V/2-E "Dynamic balancing of the Stemme S10 powered glider propeller in the S10-V and S10-VT models".
- For S10-V only (propeller 10AP-V): Annex A and B of the SB A31-10-051 (assembly drawing of the modified gearbox suspension 10AA as well as part drawing of the shortened spacer tube 10AA-08).

8. Accomplishment and log entry:

- The conversion of the propeller acc. to 5.1 may be carried out and certified by the manufacturer only.
- The modification of the gearbox suspensions acc. to 5.2 may be carried out by an authorised mechanic and must be entered into the airplane's log book by a licensed inspector.
- The extra dynamic propeller balancing acc. to 5.3 must be carried out and entered into airplane's log book either by the manufacturer or by an authorised maintenance workshop which has a dynamic balancer and the necessary specialised knowledge available.

The regulations on the keeping of service records must be observed.

9. Remarks:

9.1 The present SB supersedes the SB with the same document No. and with Amendment-Index 05.a.



Changes towards Am.-Ind. 05.a:

- Specification of the affected serial numbers of item 2,
- Correction of the conversion error in the English translation of item 6.

The Service Bulletin, Am.-Ind. 05.a, has been sent to each operator of the affected S/N's last known to the manufacturer. If ownership has changed and the new aircraft operator cannot be reached in this way, information as to the name and address of the new aircraft operator is requested immediately.

9.2 During removal of the propeller/gearbox-unit care is to be taken that during reassembly the positions of the disconnected parts will be the same as before removal. For this purpose relative unerasable markings have to be placed at the separation points (drive shaft/clutch, drive shaft/gear). If unusual vibrations are ascertained during test runs on the ground that test has to be interrupted and the dynamic balancing must be repeated at the complete system propeller/gear/aircraft (STEMME Procedural Instruction A17-10AP-V/2-E).

Stemme GmbH & Co. KG - Airworthiness Department / LBA approved

prepared:	Sign	checked:	Sign	Date:	Supersedes issue of:
Montag		Dalldorff		15.12.1999	06.12.1999

STEMME F & D Design Org.	Technische Mitteilung / Service Bulletin		Document number:
	Übersicht der zulässigen Betriebszeiten Review of Permissible Operating Times		A31-10-001
			Änd.-/Am.-Index 06.c Seite/page:4 0

Review of Permissible Operating Times:

No.	Model			Part/Assembly/ Equipment	Manufacturer, Type	Part No. (STEMME)	Permissible op. time by		NOTES
	S10	S10-V	S10-VT				Overhaul (TBO)	Replacement	
1X	X	X	X	Airframe (Composite structure)	STEMME	sundry	6000 h	6000 h	(1)
2	X	X		Limbach Engine	Limbach L 2400 EB 1.D L 2400 EB 1.AD	10AM-MOL			(2)
3	X	X		Magneto for Limbach	Slick 4230	(from Limbach)			(2)
4			X	Rotax Engine	ROTAX 914 F2/S1	11AM-M	1000 h (10 years)		(8)
5	X			Propeller (fixed pitch)	STEMME	10AP-N	400 h		(3)(4)
6	X			Lateral parts	STEMME	10AP-N01 10AP-N11		1000h	(4)
7		X		Variable pitch propeller	STEMME	10AP-V	150 h (3 years)		(3)(4)
8			X	Variable pitch propeller	STEMME	11AP-V	150 h (3 years)		(3)(4)
9	X	X		Propeller hub	STEMME	10AP-V01		2000 h	(4)
10	X	X		Propeller fork and its fastening	STEMME	10AP-V88 -V77, -V78, -VU		150 h	(3)(4)
11	X	X		Reduction Gear (vee-belts)	STEMME	10AG	400 h		(3)(4)
12			X	Reduction Gear (cog wheels)	STEMME	11AG	1000 h		(3)(4)
13	X			Gear suspension	STEMME	10AA	1000 h		(4)
14		X		Gear suspension	STEMME	14AA	150h		(3)(4)
15			X	Gear suspension	STEMME	11AA	1000h (5 years)		(3)(4)
16	X	X		Flywheel clutch (2 flyweights)	STEMME	10AK	400 h		(3)(4)
17			X	Flywheel clutch (3 flyweights)	STEMME	11AK	400 h		(3)(4)
18	X	X		Driveshaft	Ciba-Geigy (without P/N ref.)	10AS	400 h		(3)(4)(9)
19	X	X	X	Driveshaft	Glaenzler-Spieler 19.01.01.xx	10AS	400 h		(3)(4)(9)
20	X	X	X	Driveshaft	MAN Techn. AG 95.07.00.00.000	10AS	400 h		(3)(4)(9)
21			X	rubber parts of the engine	Rotax	sundry		5 years	(7)
22	X	X	X	Rubber parts of the gear suspension	STEMME	sundry		12 years	
23	X	X		Rubber parts of the clutch	STEMME	10AS-43 10AS-48		12 years	
24	X	X		flexible disk of the drive shaft system	STEMME	10AS-09		12 years	
25			X	flexible disk of the drive shaft system	STEMME	11AS-09		12 years	
26	X	X		Fuel Hoses	STEMME	10AB-90	-	5 years	
27			X	Fuel Hoses	STEMME	11AB-M ...	-	5 years	
28	X	X		Lubrication Hoses	STEMME	10AM-KÖS / -T	-	5 years	
29			X	Lubrication Hoses	STEMME	11AM-O ...	-	5 years	
30			X	Coolant Hoses	STEMME	11AM-W ...	-	5 years	
31	X	X	X	Brake Hoses	sundry	10FO-B06	-	5 years	(5)
32	X	X	X	Safety Harnesses	sundry	10C-08/09	-	12 years	(6)
33	X	X	X	Control Rod Connectors	L'Hotelier	10M-098/099			(2)

STEMME F & D Design Org.	Technische Mitteilung / Service Bulletin	Document number: A31-10-001
	Übersicht der zulässigen Betriebszeiten <i>Review of Permissible Operating Times</i>	Änd.-/Am.-index 06.c Seite/page:5 0

On expiry of a part's permissible operating times the affected part has to be sent to the manufacturer for inspection. The manufacturer has to decide if further use is possible after the inspection, or if an replacement or overhaul or repair is necessary.

If the limitation is given in operating hours and in a calendar period (year), the first occurring case applies.

If further equipment subject to service life limitations is installed, the overhaul intervals and service life limits prescribed by the respective manufacturer must be observed. The item has to be entered in the form Review of Operating times.

NOTES:

- (1) Extension of service life exceeding 6000 h can be achieved only for individual airplanes after a comprehensive inspection of the airframe carried out by the manufacturer according to an approved program.
- (2) Please refer to the actual issue of the appropriate manufacturer's Service Bulletin. Maintenance Manuals or Instructions of the manufacturer must be strictly adhered to (for L'Hôtelier Ball and Swivel Joints contained in the appendix to the Maintenance Manual).
- (3) The stated times are provisional within the TBO development program. Based on sufficient operating experience they may be further raised or reduced if necessary (extension of TBO and/or service life is intended) and will be notified by a new issue of this Service Bulletin.
- (4) The TBO expires in each case of:
 - ☐ impact stop (possible ground touch of the propeller);
 - ☐ Non-observance of the periodical inspections as they are fixed in the Maintenance Manual;
 - ☐ replacement of essential parts.

Damaging by ground contact, bird strike, stone strike or similar which require a „large repair“, the manufacturer decides which parts of the complete drive system are affected and if a repair may be practicable or if an overhaul or replacement have to be performed.

- (5) May be extended to 10 years, if they are in good condition.
- (6) Replacement required after heavy overloadings (e.g. due to an accident); hereto refer also to the operating instructions of the manufacturer.
- (7) All rubber parts of the engine Rotax 914 F2/S1 must be renewed. Subject to this action are: the carburetor venting hoses, the air pressure hoses between airbox, carburetor float chambers, fuel pressure control and pressure sensor, the connecting hoses on the compensating tube, the four engine sided rubber hoses of the cooling system, and the rubber diaphragms on both carburetors.
- (8) For the STEMM E supported model of the engine type Rotax 914, the TBO is established by this SB on the basis of that published by Rotax, and in general it will not differ. Overhaul of engines model Rotax 914 F2/S1 must be carried out by a workshop that is authorized by STEMM E in accordance with Rotax.
- (9) The drive shaft cannot be overhauled. Instead of an overhaul it will be checked by a load test at STEMM E.